

When the gray year plods down
Toward the end of the hill,
Where the white little town
Lies asleep, wonder-still.
Then he mends his dull pace,
For a ray, streaming far,
Strikes a gleam on his face
From the Inn of the Star.

Then the staff is set by
And the shoon from his feet,
And the burden let lie,
And he sits at the door;
Old jests round the board,
Old songs round the blaze,
While the faint bells accord
Like the souls of old days.

In the sweet bed of peace
He shall sleep for a night,
And faith, like a fleece,
Lap him kindly and light;
Then the wind, crooning wild,
Mystic music shall seem,
And the brow of the Child,
Be a light through his dream.

And we, too, follow down
The long slope of the hill;
See, the white little town,
Where it shines, wonder-still!
Be our hopes quenched or bright,
Be our griefs what they are,
We shall sojourn a night
At the Inn of the Star.
—British Weekly.

CAUGHT IN THE TOILS.

WHEN I—John Jubber, veteran butler at the Grange—took in the 5 o'clock tea things one evening it was the footman's place, strictly speaking, to do so, but knowing that the two old ladies preferred me, I always made a point of doing so, one of them, I think it was Miss Matilda, said:

"Well, Jubber, and what do you think of the new housemaid? Tell us candidly, do you think she will suit?"

"I think, ma'am, I replied, 'she is a remarkably good-looking young woman. You see, ma'am, she only came yesterday, so it is impossible for me to tell exactly. I can only say she seems a respectable girl enough, and certainly very clean and tidy, ma'am.'"

"Yes, she is very presentable, certainly," chimed in Miss Jane; "but you know, Jubber, we want something more than good looks."

"You see, Jubber, Ann Preedy had been here so many years, and my sister and I were so familiar with her ways, that we cannot get used to a new maid very quickly. Still, you understand, we have such very great faith in your opinions upon all domestic affairs, Jubber, that if you expressed yourself satisfied with Mary Blake we should feel quite easy in our minds."

"So we will ask you, Jubber, to keep your eyes on her, and to report to us on her general conduct, and so on, in—say, a week's time from now."

Well, I did keep my eye on the young woman, as I was told, and a week of her acquaintance only confirmed my original impression—namely, that she was as good-looking a girl as one would wish to see—abundant hair, slightly inclined to red, liquid blue eyes, pearly teeth, a trim, compact little figure, and such a foot and ankle! I wouldn't give a thank-you for the prettiest woman in England, I assure you, if she hadn't neat feet and ankles. And those Mary Blake certainly possessed. She was wonderfully quick, and neat, too, in her housework.

The first morning after she came I superintended in person her dusting of the old china in the drawing-room. I couldn't have done it better myself. Well, it's a remarkable circumstance, that every blessed morning after that I did myself drawn toward the drawing-room where Mary Blake was busy dusting the ornaments.

"Are you fond of china?" said I, one morning, as I watched the new housemaid tenderly taking up a little Dresden shepherdess.

"Oh! yes," she exclaimed. "I can assure you, Mr. Jubber, that dusting this room of a morning is a labor of love to me; it is, truly. My late mistress gave me a book all about old china, and I—I know something about it, sir. Next to listening to music I think I like to look at beautiful china. And oh! Mr. Jubber, how lovely you do perform on that violin! When you were playing last night in your room I sat and listened, and it was a treat to a poor girl. Yes, and when you played 'Home, Sweet Home,' oh! Mr. Jubber, you don't know how I felt."

"Oh! Mr. Jubber, I could not help crying. I—I c-c-couldn't help it now. Oh! Mr. J-J-Jubber, f-f-forgive me, w-o-o-n't you? I c-c-couldn't help it, you are so k-kind to me."

And, with that, blessed if she didn't throw herself into my arms, sobbing as if her heart would break. Well, all I can say is, when a young and lovely woman in distress twines her arms round the neck of a susceptible man, and goes on as Mary Blake did to me that morning, I imagine there is only one thing that man can do under the circumstances, and I did it, you may be sure. I—in short—kissed her!

I beat a somewhat undignified and hasty retreat.

Curiously enough, that very morning made up the week my mistress had given me in which I was to form an estimate of the character of Mary Blake.

"I am happy to say," I reported, "that I consider Mary Blake perfect in every possible way. She is modest and unassuming in her manner, and I am bound to say that as a housemaid I never yet saw her equal. I think, ma'am, I would say, 'the most fragile china in the world would be perfectly safe if she had the handling of it.'"

"My dear Jane," exclaimed Miss Matilda, clapping her hands together in great delight—"my dear Jane, never were I do believe, such lucky people as we are. We have actually found another treasure!"

Well, dear reader, the interest I took in Mary Blake's career still continued, and I found myself every morning superintending the dusting operations in the drawing-room. The roguish blue eyes (no longer with tears in them) would still look into mine in the same pleading, trustful way; the brother and sisterly kiss would still pass between us.

"John Jubber—John Jubber!" I said to myself, "this will not do, my boy. You have made a vote of perpetual celibacy to go falling in love like this, for that's what it is, there's no mistake about it; you ought to be ashamed of yourself!"

The next morning I avoided the drawing-room at dusting time. Result—there was a reproachful look in the blue eyes. I determined, though, to be firm, and the next morning, as before, to keep clear of the drawing-room. Alas! for my resolution.

Happening to pass the door—quite by accident, of course—I heard a sound as of some one choking within. Mary III,

perhaps, I thought to myself, and at once opened the door. Yes, there she was, sitting on the sofa with her head buried in the cushions, sobbing as if her heart would break.

"What is the matter, Mary, my dear?" I exclaimed, drying her eyes with her own duster as I spoke.

"Oh! go away—go away—a-a-y," she sobbed.

"No, no; tell me what is the matter—what are you crying for?" I said.

"Oh! Mister Jubber, I l-o-o-v-e you so, and you're s-s-so cruel!" she replied, sobbing away louder than ever.

Well, here was a pretty go. Of course, I made a fool of myself, and swore I loved her in return, and all the rest of it, if only to keep her quiet.

"And you will be k-kind to me, and let me help you clean the p-plate, as you promised?" said she.

"Oh! yes, of course I will, Mary, my dear," I replied, sealing the promise with a kiss. "And now be off, and I'll finish your dusting for you."

Well, I dusted away at the china ornaments, thinking all the while what a fool I had made of myself, and was about to leave the room, when by the sofa on which I had found Mary reclining I caught sight of a crumpled piece of paper. It was a letter, and as it commenced "Dear Polly," I guessed at once who it belonged to. So I pocketed it, meaning to hand it to Mary when I next saw her alone.

Now, I am not an inquisitive man, as a rule, but before I got to my pantry I could no more resist reading that letter than a moth could avoid going at a candle. This is what it said:

"Dear Polly—Hasn't that there old Spooner let you have a sight of the plate yet? Get to see it immediately, as Bill and me want to do the crack next week, and Oliver's (the writer alluded in his slang to the moon) not on the job then. If you can get hold of the old girl's diamonds, you can do 'em up ready for us at the same time. Further peritlers on hearing from you."

"The kids is all well, and so am I, and I remain, yours affectionate,"

"Joseph Maggs."

"P.S.—Is there a baker on the premises?"

It didn't want much acumen to understand this precious epistle. It was as plain as day that the party who wrote it meant carrying off my mistress's plate, and that the newly-found treasure (?), Mary Blake, was in with the thieves.

The next thing to be done, thinks I to myself, is to see whether "Old Spooner" can't get the best of Mr. Joseph Maggs. With that in view, after making a copy of the letter, my first act was to go and replace it exactly where I found it. And it was lucky I did, as it happened, for just as I came out Miss Mary Blake bounced in. She came to look for her duster, she said, and it was quite refreshing to note the dash she made for the letter the moment she saw it. Of course, I pretended not to notice that part of the performance.

Apparently much relieved in her mind, she now turned her attention to me.

"Is my dear old Johnny—you are my Johnny now, aren't you?—going to show me his pretty plate, as he promised to-day?" says the artful little minx, looking up into my face with those great blue, innocent-looking eyes of hers, and putting up her face for a kiss, which I hadn't the faintest objection to giving.

"Of course I will, my dear," I replied. "Come to my pantry about 11.30 and I'll show you the lot."

"Dear old thing!" exclaimed she. "I'll come, never fear."

At the time appointed she duly made her appearance in the pantry, when out came the plate for her edification. There was a tremendous lot, and I showed her every bit of it.

Directly after luncheon, finding that several things were wanted for the house from town, I volunteered to go myself and see about them. Now, Mr. Benjamin Bagshaw, who was an inspector of police at that time (you recollect he retired last year?), was a particular friend of mine. So straight to Ben's house I went.

"John, my boy," said Ben, when I had told him my story, and showed him the copy of the letter to Mary Blake, "give us your dipper."

Ben was always a bit slangy when excited. "I think that if we only use discretion and hold our tongues we shall make such a haul as will astonish 'em at Scotland Yard. Now, look ye here, John," says he, "in the first place all letters to and fro between Mary Blake, housemaid, and Joseph Maggs, burglar, must be intercepted. That will be, of course, my business."

"In the second place, you must go home and make love to blue-eyed Mary—oh! the dear, sweet little innocent," laughed Ben—"fencer than ever."

"Thirdly and lastly, you must go out every afternoon and meet me regular was the letter from Joe Maggs to Mary Blake, saying when the plant was to come off, and at last, on the eighth day, Ben, with the very broadest grin you ever saw on a human countenance, announced that it had arrived.

Joe Maggs thanked his dear Polly for the plan of the house and the particulars of the swag, and he and his pal would be waiting outside the house at 2 o'clock in the morning on the

Thursday. She was to undo the bolts of the front door, so that they could slip in, and they would then go straight to "Old Spooner's" room, gag and bind him if necessary, and walk off with the plate. Finally, she was to give some of "she knew what" to the dog.

"Ah! that bit about the dog reminds me," said Ben; "you'd better get the noble animal away somewhere, John, for the night."

We settled all our plans. When everybody had gone to bed I was to let the inspector and two of his men into the house, and secrete them on the drawing-room landing. My next move was to undo the bolt, so that any one could walk in. Finally, I was to go to bed and await results.

When I kissed "Blue Eyes" behind the pantry door that evening, I felt more like Judas than ever. The only consolation I had was that she was as false as I was. On Thursday night, having seen the last of the servants off, I went softly to the hall door and let Inspector Bagshaw and his two men in the house.

Now, though I was not jealous of my friend, the inspector, yet I did not see why I should not contribute my mite toward the capture. Therefore, before I went to bed (which I did with my clothes on, underneath my night-shirt) I was careless enough to leave a decanter three parts full of port wine on the table. Was that port wine doctored, do you think, especially for the burglarious party? Well, I shouldn't wonder if it was.

At 1.30 o'clock I went to bed. Shortly after 2 I heard a noise, and I set up the most awful snoring you ever heard. I kept my eyes open, though, all the time. I heard them at the plate chest; I had foolishly left it open. I heard 'em shift its contents into a bag or bags, and then—and then (and I give you my word I almost burst out laughing) I heard 'em pegging away at the wine.

"Blimey! the cove might ha' been gentle enough to ha' left us out a wineglass—what do you think, Bill?" I heard some one say, as he filled one of the tumblers which I had purposely left on the table so as to be handy.

I had not long to wait for what I had expected.

"Joe," I heard the other man say, "I feel coming over precious queer about the chump—quite drowsy-like."

"Oh, you'll be all right directly you gets into the fresh air," growled Joe, in reply. "Come, fill up once more, and then we'll mizzle."

A loud snore was the response.

Out of the bed I jumped like a harlequin, fished out some strong cord I had purchased expressly for the occasion, and bound the legs and arms of the insensible Joe Maggs and his friend until they looked for all the world like a pair of trussed fowls. Next I lit my lamp and every candle I could lay my hands upon, and finally I blew my whistle for help.

In rushed Inspector Bagshaw and his two men, and stopped paralyzed with wonder at the sight before him—the plate all packed, the two burglars neatly secured. Ben, for once, was fairly puzzled.

"Why, how the—what the—what's the meaning of it all?" he stammered, looking from me to the two men and then at me again.

I struck an attitude, and, pointing to Joe Maggs and his friend, observed, quietly, after the manner of a conjurer at the conclusion of a difficult feat of sleight-of-hand—"That's how it's done!"—Finch Mason, in Illustrated Bits.

SCIENCE & MECHANICS

The skeleton of an average whale weighs about twenty-five tons.

Adolescent insanity, defined in the Dictionary of Medicine as Hebephrenia, a form of insanity characterized by great mental depression, deterioration of moral qualities and of mental power, and self-centred, selfish delusions. It usually terminates in dementia.

There is scarcely a gem known to the lapidary which has not been found in America. There are several gems that are almost peculiar to this country and that should be better known for their intrinsic beauty. Among these are the golden beryl of Connecticut (it is a brilliant yellow, full of life and sparkle) and the curious chlorastrolites and thomsonites of Lake Superior, which are useful as a green and mottled background in designs.

A Swiss geographer, Dr. Volz, is about to undertake an enterprise of exploration in a part of Africa hitherto somewhat neglected. Dr. Volz will leave shortly for Sierra Leone, where he will acclimatize until the autumn. He will then enter upon his exploring expedition, which is to be in the hinterland of Liberia, which is believed to have hitherto been explored only by a negro native of Liberia, named Anderson, and that thirty-five years ago. Dr. Volz is an experienced explorer, however. He once spent three years in Sumatra.

In a recently invented acetylene blowpipe oxygen is used with acetylene, and very high temperatures are obtained, owing to the absence of inert nitrogen from the flame. It is claimed that with this blowpipe a rod of pure iron serves as a soldering stick, and the heat is so great that a little of the carbon in the flame unites with the blowpipe in making repairs at sea. It is believed that a ship's frame could be soldered with its aid.

By combining the most trustworthy data obtainable, the French scientific journal, La Nature, estimates the total amount of gold that has been extracted from the earth within historic time at 17,000 tons, valued at \$12,000,000,000. The total amount of diamonds taken from the earth during the same period is estimated at about twenty tons, valued at \$700,000,000. Basing the comparison upon weight, the amount of iron daily produced is nearly equal to the total quantity of gold taken from all the earth's mines since they were first opened.

EXPLAINS RATE BILL

Facts About the Leading Piece of Work By Last Congress

ITS STRONG AND WEAK POINTS

Salient Features of the Measure Which Became a Law After Lengthy Consideration.

It is something of a task to study in detail the "rate bill" as it has become law. It may, therefore, be useful to our readers to make a summary of the salient features that work important changes in the interstate commerce law. The definition of common carriers includes for the first time express companies and pipe lines for the transportation of oil, but not sleeping car companies. The definition of a railroad covers all the appurtenances connected with tracks and terminals, and the term "transportation" covers all the instrumentalities used in receiving, conveying and delivering persons or property, including what is necessary for ventilation, refrigeration, storage, handling, etc. This brings under the law the so-called private car companies and elevators. The clause restricting the use of passes or free transportation is new, but it is pretty liberal in the exceptions made. The provisions intended to prevent common carriers from competing in production and trade in commodities which they carry is limited to railroad companies and takes effect on the first of May, 1908. The main purpose of this, which was one of the Senate amendments, is to divorce the ownership, control and operation of coal mines from the railroads engaged in transporting the product, but it applies to all other commodities except such as may be for the use of the railroads in their business as common carriers.

Railroads are required to make on reasonable terms such connection at shipping points by means of spurs, sidings, etc., as may be "reasonably practicable," where it will result in "sufficient business to justify the construction and maintenance of the same." Whenever they fail to do this and complaint is made, the commission after investigation may require it to be done, and its orders in the premises may be enforced by the same proceedings as its other orders.

The provisions regarding the filing and posting of schedules of rates and charges are fuller and more explicit than those of the law at present. They must include all through and joint rates, or, where these are not established, all the separate rates and charges "applied to through transportation." No change can be made without a notice of thirty days, except that the commission may "in its discretion and for good causes shown," allow changes on shorter notice or modify the requirements of the law "in respect to publishing, posting and filing tariffs." All contracts, agreements or arrangements between common carriers affecting their rates or charges must be filed with the commission, and it may prescribe the form of all schedules. Similar requirements are made regarding passenger fares. There is a stringent anti-rebate provision, which is substantially that of the Elkins Act, but somewhat strengthened. It makes it unlawful for "any person or persons or corporation to offer, grant or give, or to solicit, accept or receive any rebate, concession or discrimination in respect to the transportation of any property," whereby such property shall "by any device whatever be transported at a less rate than that named" in the published schedules, or whereby "any other advantage is given or discrimination practiced." The penalty is a heavy fine for each offense, but any person or officer, director or agent of a corporation who shall be convicted of the offense is made also subject to imprisonment. Ample provision is made for the enforcement of this clause, and offenders who receive rebates or pecuniary advantage are made liable to forfeit three times the value of the consideration received in proceedings brought on authority of the Attorney General.

The section giving the commission power to prescribe rates has been made familiar in the long discussion of this measure. It is only necessary to recall that where upon complaint and after full hearing the commission finds that "any of the rates or charges whatsoever demanded, charged or collected," or any regulation or practice "effecting such rates or transportation," are "unjust or unreasonable, or unjustly discriminatory or unduly preferential or prejudicial or otherwise in violation of any of the provisions of this Act," it may "determine and prescribe what will be the just and reasonable" rates or charges to be observed as the maximum, and what practice is just, fair and reasonable to be thereafter followed, and may issue an order for their observance, which "shall take effect within such reasonable time, not less than thirty days, and shall continue in force for such period not exceeding two years, as shall be prescribed in the order of the commission, unless the same shall be suspended or modified, or set aside by the commission or be suspended, or set aside by a court of competent jurisdiction." The power to prescribe rates extends to through and joint rates where the carriers have failed to agree upon them and complaint is made. Elaborate provision is made for enforcing the orders of the commission, by prosecutions for failure to comply with the requirements of the law and for forfeitures and penalties. Incidentally in designating the venue for suits against the commission, "to wit, set aside, annul or suspend any order or jurisdiction of the commission," jurisdiction for such suits is specifically vested in the Circuit Courts of the United States.

This is a point which provoked such a ponderous and prolonged debate in the Senate. The provisions of the former Act for expediting "the hearing and determination of suit in equity as so forth" is made applicable, with some further specifications, and here the proviso over which so much contention was made is interposed, "that no injunction or interlocutory order or decree suspending or restraining the enforcement of an order of the commission shall be granted except on hearing after not less than five days' notice to the commission."

The other important provisions are those relating to annual reports to the commission, the details of which are fully prescribed, giving the commission power in its discretion to prescribe forms for all "accounts, records and memoranda to be kept by the carriers" subject to the Act, including those relating to the movement of traffic, as well as receipts and expenditures, and enlarging the commission to seven members with seven-year terms and increasing salaries to \$10,000 a year. There is no doubt that this bill has greatly strengthened and improved the interstate-commerce law. How this provision giving the commission power to prescribe rates will work can only be determined by experience. Probably the only effect it will have will be to put the carriers on their guard and induce them to take pains with their schedules to avoid conflict with the authority of the commission. The commission may also be cautious about conflict over rates, but if there should be serious conflict the cumbersome system would probably break down by its own weight.

THE LABOR WORLD.

The teamsters of Miami, Fla., have secured the recognition of their union.

The boiler-makers of Mattoon, Ill., have secured increased wages and other concessions.

Butchers of Evansville, Ind., have received an increase of ten to fifteen per cent. in wages.

Engineers have formed new unions in Atlantic City, N. J.; Jefferson City, Mo., and Milwaukee, Wis.

Thousands of girl workers in Chicago bookbinderies may strike on account of a cut in wages.

All kinds of new local unions are being formed. A baseball stitchers' union was recently formed in Philadelphia.

Ithaca (N. Y.) striking carpenters started a fully equipped planing mill, and are now competing with their former employers.

Japanese barbers in California are working for about \$5 per week, and are actually driving the white barbers out of business.

Street railway employees of Detroit are agitating for an increase of scale from twenty-three and one-half to twenty-seven cents an hour.

The Building Trades Council of San Francisco has distributed 200 complete sets of tools to mechanics who "lost theirs in the recent earthquake and fire."

One hundred Chinese recently arrived at Gainesboro, Fla., to take the place of the striking men in the turpentine fields. They are to receive eighty cents a day, while the strikers ask for \$1.50 and \$2.

A significant speech has been delivered by Samuel Gompers, President of the American Federation of Labor, in which the labor leader again serves notice of the active entry of organized labor into politics.

NEWSY GLEANINGS.

A record wheat crop is predicted. One person in 400 is insane in Ohio.

Some Americans are to open a big department store in London. New York has decided to erect a monument to Cr-1 Schurz.

Heavy rain spoiled King Edward's birthday celebration; London suburbs were flooded.

The Wells, Fargo & Co. Express Company has been put on a ten per cent. dividend basis.

Six hundred men in Indian Territory hanged and burned a negro who had assaulted a girl of fifteen.

A Japanese expert said that most of the earthquake losses in San Francisco were caused by faulty construction.

A. B. Hepburn, President of the Chase National Bank, estimated that Americans spent \$100,000,000 abroad yearly.

It is reported that the suits which the Administration expects to bring against the Standard Oil may result in \$2,000,000 worth of fines.

American delegates to the International Wireless Congress will propose a plan to punish companies for refusing to communicate with other systems.

Two whiplong makers who went into bankruptcy recently in South-west England, declared that they had been ruined by motors, and especially by motor omnibuses.

An ape in the Bronx Zoological Park, New York City, seized a lighted cigar thrown into his cage and set fire to a bunch of hay, almost causing a panic among the spectators.

Morrison G. Swift was fined \$10 for posting placards denouncing "money kings" on the doors of the offices of J. P. Morgan & Co. and the Standard Oil Company, in New York City.

A NOVEL PUNISHMENT.

Corporal punishment is said to be the resource of a lazy and unenlightened mind. A Washington woman does not believe in it. She makes the punishment fit the crime, according to Harper's Weekly. On one occasion one of her boys had surreptitiously appropriated an orange belonging to his younger brother. The misdemeanor was discovered before the culprit had disposed of his spoil; so the two youngsters were summoned to the judgment seat.

"James," was the stern command of the mother, "take this seat, and you, Thomas, that one. Now, Thomas, give James the orange you have stolen from him."

When the lads had done as they were ordered, the mother added:

"James, I want you to take as long as possible to eat that orange. You, Thomas, are to sit there and watch him eat it. Under no circumstances are you to leave the room."

SOUTHERN FARM NOTES.

TOPICS OF INTEREST TO THE PLANTER, STOCKMAN AND TRUCK GROWER.

Facts About Plant Food.

Manufacturers of fertilizers make a great mystery of the art of mixing the various ingredients that go to fill up their 200-pound sacks, writes E. M. Landsberg in the New York Evening Post. They tell the farmer that it is necessary to have skilled labor and high-priced machinery to effect a perfect mixture, but a few experiments will soon convince any farmer that he can easily equal the best efforts of the factories and save a substantial sum on each ton. The process is very simple. The farmer empties on the floor of the barn the sacks of the various materials he is about to use, spreads them in alternate layers in a pile, shovels the whole over and under thoroughly for fifteen minutes, throws the result through a screen, sacks it up again, and he is ready to apply it to his land.

Screens are easily made and are extremely useful; they reduce the chemicals, etc., to a perfect form for drilling, besides insuring a thorough mixture. A strip of heavy wire cloth, four holes to the inch, is nailed to half-inch boards, making a sieve three feet wide by five feet long.

Say a farmer wants to apply to each acre of cotton 500 pounds of 8-3-3 goods, and instead of paying from \$25 to \$28 to a dealer, he wants to mix it himself. He pours on the barn floor in front of the sieve a sack of sixteen per cent. acid phosphate, two sacks of cottonseed meal and half a sack of kainit. Acid phosphate will cost him about \$15 a ton; meal he will probably have on his farm, but we must reckon it at \$25 per ton; kainit will cost \$12.50 a ton. So a ton of fertilizer made according to this, a common formula in the cotton regions, will cost him \$18.50, a saving of from \$7 to \$10 over the manufactured article; furthermore, he has absolute assurance, something he can never know with the ready-made fertilizers, unless he goes to the expense of having them analyzed.

Most fertilizers and most soils need a higher percentage of potash than the general run of "goods" furnish. But as soon as the farmer tries to buy anything other than the standard analysis he must pay such high prices that he usually drops the idea. By mixing at home he can make any formula he thinks necessary, with only a slight increase in cost.

Suppose the tobacco farmer wants an 8-4-7 goods (eight per cent. phosphoric acid, four per cent. nitrogen and seven per cent. potash).

Materials needed are: One thousand pounds sixteen per cent. acid phosphate; 300 pounds dried blood; 280 pounds sulphate of potash; 420 pounds gypsum or plain dirt.

The blood runs about fourteen per cent. ammonia, and costs \$50 per ton. Sulphate of potash runs fifty per cent. pure potash and costs about \$90 per ton. The farmer must pay the dealer from \$30 to \$35 per ton for 8-4-7 goods; he can mix them himself for \$23 to \$25 per ton, saving from \$10 to \$12 per ton on their cost.

These materials can probably be bought enough cheaper than the commercial fertilizers to allow the farmer \$8 or \$10 for his work.

Clover, vetch, soy beans, cowpeas and similar crops will furnish most of the nitrogen a crop needs; ground bone or acid phosphate is a cheap source of phosphoric acid. But potash can be restored to the soil only by the use of kainit or sulphate or muriate of potash. It is usually advisable to supply the growing crop with twice as much potash as ammonia, and a slightly larger quantity of phosphoric acid. It need hardly be pointed out that since the manufacturers have to buy all their potash in Germany, they do their best to make the farmer believe he needs but little of it on his lands.

On stiff clay soils, when growing wheat or cotton, kainit prevents rust, also damage by frost and drought. Tobacco, potatoes, strawberries and peanuts need a heavy percentage of potash.

Corn Meal vs. Corn and Oat Meal.

O. G. B. Burk, Va., writes: I wish some information about the meal made by grinding in corn with the cob. Is there any value in it for feeding either cattle or horses?

We have fed corn and cob meal to several classes of stock with good satisfaction during recent years. If corn is cheap, say less than forty cents a bushel, it will hardly pay to grind it, but when it gets over fifty cents a bushel, it seems to us that grinding the corn with the cob is profitable, particularly as a machine can be purchased that will do this work fairly well at a cost of about \$40. Corn and cob meal in our experience gives the best result when finely ground. This necessitates very often passing it through the machine twice and setting the burrs up closely the second time. Corn and cob meal has given us about the same value, pound per pound, as pure corn

meal. The cobs have little if any nutritive value, it is true, but corn meal is a heavy, concentrated food, and when fed in large quantities it is often not thoroughly digested and assimilated by live stock. The benefit from grinding the cobs with the meal is thought to be due to the lightening of the meal somewhat, enabling it to be completely digested and absorbed.

Our experience briefly summed up is about as follows: A bushel of corn and cobs weighs about seventy pounds; a bushel of corn fifty-six pounds. By grinding the corn and cob, therefore, we have added practically one-fifth to the feeding value of a bushel of corn meal. This is an item to be carefully considered in all sections of the country where corn is high priced.—Knoxville Journal and Tribune.

Succotash.

The American Indian gave to the world a dish composed of green corn and beans variously compounded, and its name was, and is, succotash. More recently our agricultural and live stock experimenters have utilized this name for mixed feeds for live stock, and fed to them green corn, peas, oats and barley were sown together with satisfactory results in the way of food, but produced no second crop after the first one was cut off. This was in some experiments